



ATTORNEYS AT LAW

Robert Greene Sterne
Edward J. Kessler
Jorge A. Goldstein
David K.S. Cornwell
Robert W. Esmond
Tracy-Gene G. Durkin
Michele A. Cimbala
Michael B. Ray
Robert E. Sokohl
Eric K. Steffe
Michael Q. Lee
Steven R. Ludwig
John M. Covert
Linda E. Alcorn
Robert C. Millonig
Lawrence B. Bugaisky
Donald J. Featherstone
Michael V. Messinger

Judith U. Kim
Timothy J. Shea, Jr.
Patrick E. Garrett
Heidi L. Kraus
Edward W. Yee
Albert L. Ferro*
Donald R. Banowitz
Peter A. Jackman
Teresa U. Medler
Jeffrey S. Weaver
Kendrick P. Patterson
Vincent L. Capuano
Eldora Ellison Floyd
Thomas C. Fiala
Brian J. Del Buono
Virgil Lee Beaston
Kimberly N. Reddick
Theodore A. Wood

Elizabeth J. Haanes
Joseph S. Ostroff
Frank R. Cottingham
Christine M. Lhuillier
Rae Lynn Prengaman
Jane Shershenovich*
Lawrence J. Carroll*
George S. Bardmesser
Daniel A. Klein*
Jason D. Eisenberg
Michael D. Specht
Andrea J. Kamage
Tracy L. Muller*
LuAnne M. DeSantis
John J. Figueroa
Ann E. Summerfield
Tiera S. Coston*
Aric W. Ledford*

Michael D. Specht
Jessica L. Parezo
Timothy A. Doyle*
Cynthia M. Bouchez
Nicole D. Dretar*
Ted J. Ebersole

Registered Patent Agents*
Karen R. Markowicz
Nancy J. Leith
Helene C. Carlson
Gaby L. Longsworth
Matthew J. Dowd
Aaron L. Schwartz
Mary B. Tung
Katrina Y. Pei Quach
Bryan L. Skelton
Robert A. Schwartzman

Teresa A. Colella
Jeffrey S. Lundgren
Victoria S. Rutherford
Eric D. Hayes
Michelle K. Holoubek
Robert H. DeSelms
Simon J. Elliott
Julie A. Heider
Mita Mukerjee
Scott M. Woodhouse

Of Counsel
Kenneth C. Bass III
Evan R. Smith
Marvin C. Guthrie
*Admitted only in Maryland
*Admitted only in Virginia
*Practice Limited to
Federal Agencies

June 1, 2004

WRITER'S DIRECT NUMBER:
(202) 772-8525

INTERNET ADDRESS:
BRIAND@SKGF.COM

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Art Unit 1636

Re: U.S. Utility Patent Application
Appl. No. 10/005,876; Filed: December 7, 2001
For: **Methods and Compositions for Synthesis of Nucleic Acid Molecules
Using Multiple Recognition Sites**
Inventors: CHESNUT *et al.*
Our Ref: 0942.5340002/RWE/BJD/JKM

Sir:

Transmitted herewith for appropriate action are the following documents:

1. Fourth Supplemental Information Disclosure Statement;
2. List of cited references on Form PTO-1449 (8 sheets);
3. A copy of each reference cited on Form PTO-1449 (24 documents: AN9-AO9 and AT108-AT115); and
4. One (1) return postcard.

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

Commissioner for Patents
June 1, 2004
Page 2

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Brian J. Del Buono
Attorney for Applicants
Registration No. 42,473

BJD/JKM:bac
Enclosures

269706_1.DOC



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

re application of:

Chesnut *et al.*

Appl. No. 10/005,876

Filed: December 7, 2001

For: **Methods and Compositions for
Synthesis of Nucleic Acid
Molecules Using Multiple
Recognition Sites**

Confirmation No. 7958

Art Unit: 1636

Examiner: Ketter, J.S.

Atty. Docket: 0942.5340002/RWE/BJD/JKM

Fourth Supplemental Information Disclosure Statement

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450
Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. A copy of each document is provided.

The numbering on this Fourth Supplemental Information Disclosure Statement is a continuation of the numbering in Applicants' Third Supplemental Information Disclosure Statement filed October 24, 2003, in connection with the above-captioned application.

The Examiner's attention is directed to the following co-pending U.S. Patent Applications, which are directed to related technical subject matter:

U.S. Patent Application No. 09/177,387, Hartley, J.L., *et al.*, filed October 23, 1998 and submitted herewith as document **AR113**;

U.S. Patent Application No. 09/438,358, Gerard, G.F., *et al.*, filed November 12, 1999 and submitted herewith as document **AS113**;

U.S. Patent Application No. 09/517,466, Hartley, J.L., *et al.*, filed March 2, 2000 and submitted herewith as document **AT113**;

U.S. Patent Application No. 09/648,790, Hartley, J.L., *et al.*, filed August 28, 2000 and submitted herewith as document **AR114**;

U.S. Patent Application No. 09/695,065, Brasch, M.A., *et al.*, filed October 25, 2000 and submitted herewith as document **AS114**;

U.S. Patent Application No. 09/984,239, Brasch, M.A., *et al.*, filed October 29, 2001 and submitted herewith as document **AT114**;

U.S. Patent Application No. 10/058,292, Hartley, J.L., and Brasch, M.A., filed January 30, 2002 and submitted herewith as document **AR115**; and

U.S. Patent Application No. 10/640,422, Cheo, D., *et al.*, filed August 14, 2003 and submitted herewith as document **AS115**.

The identification of these U.S. Patent Applications is not to be construed as a waiver of secrecy as to these applications now or upon issuance of the present application as a patent. The Examiner is respectfully requested to consider the cited applications and the art cited therein during examination.

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

Chesnut *et al.*
Appl. No. 10/005,876

This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection, or Notice of Allowance, or an action that otherwise closes prosecution in the application.

This IDS is being filed as two submissions on the same day. One submission is electronic and one submission is non-electronic. It is believed that only one fee under 37 C.F.R. § 1.17(p) is required to cover both submissions. That fee is included with the electronic submission.

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

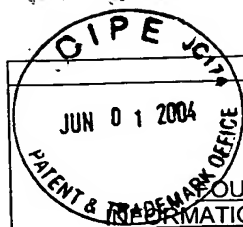
Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Brian J. Del Buono
Attorney for Applicants
Registration No. 42,473

Date: June 1, 2004
1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600
229143_1.DOC



FORM PTO-1449

FOURTH SUPPLEMENTAL
INFORMATION DISCLOSURE STATEMENTATTY. DOCKET NO.
0942.5340002/RWE/BJD/JKMAPPLICATION NO.
10/005,876FIRST NAMED INVENTOR
Chesnut *et al.*FILING DATE
December 7, 2001ART UNIT
1636

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL						Yes No
	AM						Yes No
	AN9	WO 02/08391	01/31/2002	WIPO			Yes No
	AO9	WO 03/25161	03/27/2003	WIPO			Yes No
	AP						Yes No

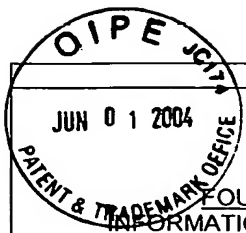
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR		
	AS		
	AT	108	Kuempel, P., <i>et al.</i> , "Use of a transposon (Tndif) to obtain suppressing and nonsuppressing insertions of the <i>dif</i> resolvase site of <i>Escherichia coli</i> ," <i>Genes Dev.</i> 10:1162-1171, Cold Spring Harbor Laboratory Press (July 1, 1996).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



FORM PTO-1449

FOURTH SUPPLEMENTAL
INFORMATION DISCLOSURE STATEMENTATTY. DOCKET NO.
0942.5340002/RWE/BJD/JKMAPPLICATION NO.
10/005,876FIRST NAMED INVENTOR
Chesnut *et al.*FILING DATE
December 7, 2001ART UNIT
1636

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

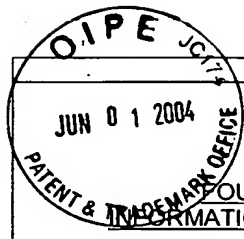
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>109</u>	Lee, M.H., <i>et al.</i> , "Site-specific integration of mycobacteriophage L5: Integration-proficient vectors for <i>Mycobacterium smegmatis</i> , <i>Mycobacterium tuberculosis</i> , and bacille Calmette-Guérin," <i>Proc. Natl. Acad. Sci. USA</i> 88:3111-3115, National Academy of Sciences (1991).
	AS	<u>109</u>	Lenski, R.E., <i>et al.</i> , "Genetic Analysis of a Plasmid-Encoded, Host Genotype-Specific Enhancement of Bacterial Fitness," <i>J. Bacteriol.</i> 176:3140-3147, American Society for Microbiology (1994).
	AT	<u>109</u>	Manning, P.A., <i>et al.</i> , "Gene Capture in <i>Vibrio cholera</i> ," <i>Trends in Microbiology</i> 7:93-95, Elsevier Science (1999).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



FORM PTO-1449

ATTY. DOCKET NO.
0942.5340002/RWE/BJD/JKM

APPLICATION NO.
10/005,876

FIRST NAMED INVENTOR
Chesnut *et al.*

FILING DATE
December 7, 2001

ART UNIT
1636

FOURTH SUPPLEMENTAL
INFORMATION DISCLOSURE STATEMENT

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

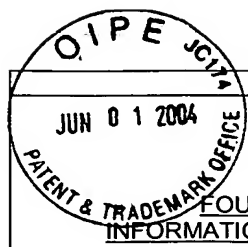
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	110	Murayama, N., <i>et al.</i> , "Evidence for Involvement of <i>Escherichia coli</i> Genes <i>pmbA</i> , <i>csrA</i> and a Previously Unrecognized Gene <i>tldD</i> , in the Control of DNA Gyrase by <i>letD</i> (<i>ccdB</i>) of Sex Factor F," <i>J. Mol. Biol.</i> 256:483-502, Academic Press Ltd. (1996).
	AS	110	Shuman, S., "Novel Approach to Molecular Cloning and Polynucleotide Synthesis Using Vaccinia DNA Topoisomerase," <i>J. Biol. Chem.</i> 269:32678-32684, American Society for Biochemistry and Molecular Biology, Inc. (1994).
	AT	110	Stuurman, J., <i>et al.</i> , "Single-site manipulation of tomato chromosomes <i>in vitro</i> and <i>in vivo</i> using Cre-lox site-specific recombination," <i>Plant Molecular Biology</i> 32:901-913, Kluwer Academic Publishers (Nov. 27, 1996).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



FORM PTO-1449

Page 4 of 8

ATTY. DOCKET NO.
0942.5340002/RWE/BJD/JKM

APPLICATION NO.
10/005,876

FIRST NAMED INVENTOR
Chesnut *et al.*

FILING DATE
December 7, 2001

ART UNIT
1636

FOURTH SUPPLEMENTAL
INFORMATION DISCLOSURE STATEMENT

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

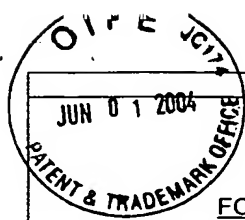
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>111</u>	Zechiedrich, E.L., <i>et al.</i> , "Topoisomerase IV, not gyrase, decatenates products of site-specific recombination in <i>Escherichia coli</i> ," <i>Genes Dev.</i> 11:2580-2592, Cold Spring Harbor Laboratory Press (1997).
	AS	<u>111</u>	Institut Pasteur Website, Introduction: http://www.pasteur.fr/recherche/unites/pmtg/integ/intro.html (accessed 6/19/2003).
	AT	<u>111</u>	Institut Pasteur Website, Figure 1: http://www.pasteur.fr/recherche/unites/pmtg/integ/fig1.html (accessed 6/19/2003).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



JUN 01 2004

FORM PTO-1449

FOURTH SUPPLEMENTAL
INFORMATION DISCLOSURE STATEMENTATTY. DOCKET NO.
0942.5340002/RWE/BJD/JKMAPPLICATION NO.
10/005,876FIRST NAMED INVENTOR
Chesnut *et al.*FILING DATE
December 7, 2001ART UNIT
1636

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

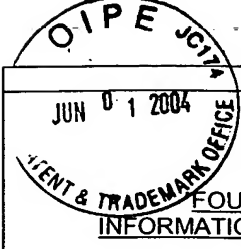
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>112</u>	Institut Pasteur Website, Figure 2: http://www.pasteur.fr/recherche/unites/pmtg/integ/fig2.html (accessed 6/19/2003).
	AS	<u>112</u>	Institut Pasteur Website, Figure 3: http://www.pasteur.fr/recherche/unites/pmtg/integ/fig3.html (accessed 6/19/2003).
	AT	<u>112</u>	Institut Pasteur Website, Main page: http://www.pasteur.fr/recherche/unites/pmtg (accessed 6/19/2003).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



JUN 01 2004

FORM PTO-1449

FOURTH SUPPLEMENTAL
INFORMATION DISCLOSURE STATEMENTATTY. DOCKET NO.
0942.5340002/RWE/BJD/JKMAPPLICATION NO.
10/005,876FIRST NAMED INVENTOR
Chesnut *et al.*FILING DATE
December 7, 2001ART UNIT
1636

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

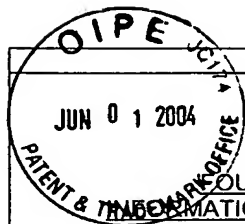
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>113</u>	Co-Pending U.S. Patent Application No. 09/177,387, Hartley, J.L., <i>et al.</i> , filed October 23, 1998 (NOT PUBLISHED).
	AS	<u>113</u>	Co-Pending U.S. Patent Application No. 09/438,358, Gerard, G.F., <i>et al.</i> , filed November 12, 1999 (NOT PUBLISHED).
	AT	<u>113</u>	Co-Pending U.S. Patent Application No. 09/517,466, Hartley, J.L., <i>et al.</i> , filed March 2, 2000 (NOT PUBLISHED).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



FORM PTO-1449

FOURTH SUPPLEMENTAL
INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.
0942.5340002/RWE/BJD/JKM

APPLICATION NO.
10/005,876

FIRST NAMED INVENTOR
Chesnut *et al.*

FILING DATE
December 7, 2001

ART UNIT
1636

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

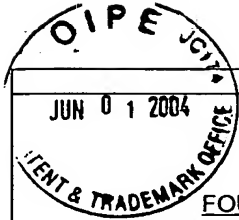
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	<u>114</u>	Co-Pending U.S. Patent Application No. 09/648,790, Hartley, J.L., <i>et al.</i> , filed August 28, 2000 (NOT PUBLISHED).
AS	<u>114</u>	Co-Pending U.S. Patent Application No. 09/695,065, Brash, M.A., <i>et al.</i> , filed October 25, 2000 (NOT PUBLISHED).
AT	<u>114</u>	Co-Pending U.S. Patent Application No. 09/984,239, Brasch, M.A., <i>et al.</i> , filed October 29, 2001 (NOT PUBLISHED).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



JUN 01 2004

FORM PTO-1449

ATTY. DOCKET NO.
0942.5340002/RWE/BJD/JKMAPPLICATION NO.
10/005,876FIRST NAMED INVENTOR
Chesnut *et al.*FILING DATE
December 7, 2001ART UNIT
1636FOURTH SUPPLEMENTAL
INFORMATION DISCLOSURE STATEMENT

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>115</u>	Co-Pending U.S. Patent Application No. 10/058,292, Hartley, J.L., and Brasch, M.A., filed January 30, 2002 (NOT PUBLISHED).
	AS	<u>115</u>	Co-Pending U.S. Patent Application No. 10/640,422, Cheo, D., <i>et al.</i> , filed August 14, 2003 (NOT PUBLISHED).
	AT	<u>115</u>	Ball, C.A. and Johnson, R.C. "Efficient Excision of Phage λ from the <i>Escherichia coli</i> Chromosome Requires the Fis Protein," <i>J. Bacteriol.</i> 173:4027-4031, American Society for Microbiology (July 1991).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.